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ABSTRACT

In the first article, a discussion is given of proficiency, procedures and materials for performance evaluation, instructional placement, and effective teaching tactics for two areas of instruction--word pronunciation and reading comprehension. A measurement focus rather than a method focus toward teaching is emphasized. The second article considers six types of academic data useful in the identification process (present level of functioning, expectancy level, rate of learning, specific learning difficulties, level of motivation, and previously attempted academic interventions): and reviews eight types of data collection (including norm and criterion referenced tests, observation, and record review). A methodology for synthesizing diagnostic information is offered, and charts on assessment measures and observable characteristics indicative of possible learning disability are appended. (SBH)

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IOWA PERSPECTIVE

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Evaluating and Teaching Reading to "Irregular" Kids

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Paper Outline

INTRODUCTION
- Proficiency
- Learning Measurement

WORD PRONUNCIATION
- What Is Out Outcome Goal?
- What Are the Prerequisites to Learning to Read?
- What Constitutes Word Pronunciation Proficiency?
- What Procedures and Materials Shall We Use to Evaluate Reading Performance?
- How Do We Determine Instructional Placement?
- What Are the Most Effective Teaching Tactics?
  - Appropriate Slicing of Curriculum
  - Demonstration (Show)
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  - Natural Consequences

READING COMPREHENSION
- What Are the Outcome Goals of Reading Comprehension?
- What Are the Prerequisites to Reading Comprehension?
- What Constitutes Reading Comprehension Proficiency?
- What Procedures and Materials Should We Use to Evaluate Reading Comprehension Performance?
- How Do We Determine Instructional Placement?
- What Are the Most Effective Teaching Tactics?

SUMMARY

Introduction

This article represents our most recent knowledge in how to apply the principles of learning to the teaching and evaluation of reading. The information is presented in a simplified manner. However, this simplicity should not be confused with a lack of sophistication. One of the hallmarks of science is that the problems under investigation become clearer, and appear more simplistic, as we move closer to resolving the problems.

The field research that has taken place over the last ten years in the area of reading has identified the essential (versus spurious) components involved in efficiently and effectively teaching and evaluating reading. Although we are particularly concerned with handicapped children, the information presented is applicable to students in all categories (e.g., "retarded," "average," "gifted") and to all ages (i.e., preschool through adult).

I am sure that a number of the concepts presented will conflict with your present beliefs and practices. I strongly urge you to *neither accept nor reject* the information out of hand. Instead, try out the ideas with an open mind, following your own common sense, then drawing your own conclusions.

This article emphasizes a measurement focus toward teaching rather than a method focus. We are not presenting a "new reading method" to be compared with other reading methods. What is presented is a statement of: 1) what is essential to teach another person to read, regardless of the material used and 2) how to precisely evaluate student performance and thus evaluate teaching effectiveness.

There are two central measurement concepts, **proficiency** and **learning measurement**, which are interwoven into each segment of this article. Consequently, it should prove helpful to briefly discuss each of these concepts at the outset.

In This Issue:

"Evaluating and Teaching Reading to 'Irregular' Kids" by Clay M. Starlin

"Academic Assessment in the Identification of Emotionally Disabled Pupils" by Patricia Rootes

EC 124552

Proficiency

The entire decision making process, as it relates to teaching and evaluation, hinges on how proficiency is defined. The lack of agreement in this area has been the biggest single factor in maintaining much of the confusion in the reading area.

What does it mean to be a good 4th grade reader? What is the difference between a good and poor comprehender? What constitutes adequate word recognition skills?

Proficiency means to be skilled, to perform with ease and accuracy. There is no such thing as having different levels of proficiency. Certainly there are different levels of performance, but either a student has achieved a *standard* of proficiency, or he/she is non-proficient.

Because it is a standard, it remains the same regardless of the age of the student or his/her label. These standards are directly analogous to many of the standard (or normal) limits we find in medicine (e.g., 98.6).

There are *only two* dimensions to academic proficiency. One is **accuracy,** the relationship of the number of correct responses to the number of incorrect responses. The other dimension is **fluency,** the number of total responses made in a standard time period.

We look at both fluency and accuracy because we are concerned with the *inaccurate student* and the *slow performing* student.

These two factors provide us with four possible performance patterns:

1. fluent accurate students (proficient)
2. fluent inaccurate students
3. slow accurate students
4. slow inaccurate students

You can probably write down names of students you have taught next to each of these patterns. Obviously, number 1 is most desirable and number 4 is least desirable. Accuracy and fluency are equally important and without both, a student is not proficient.

Initially, the concern for fluency, and therefore time, seems somewhat foreign since we were taught that: accuracy alone=proficiency (e.g., 90% accuracy pass to a new level). Just as we keep track of accuracy information for students who have accuracy problems, we need to keep track of fluency information for students who have fluency problems, such as: slow reading, failure to complete assignments and needing additional time on tests.

To measure accuracy, we **count** the number of correct and error responses. To measure fluency, we monitor **time** for a standard interval (e.g., 1 minute, 2 minutes, 5 minutes). The measurement of the fluency area involves the student's fluidness of performance; it is not a race or a speed test. We are not timing the student; we are looking at the student's performance during a standard time period.

The fluency factor has recently increased in significance because it appears to be directly involved with the retention of information. That is, when things are done fluently and accurately versus just accurately, we still know the information in a week, in a month, after summer break.

Maintaining **standard** accuracy and fluency criteria means that the slowest learning students will achieve proficiency on fewer skills and concepts. A slow learning student may spend 13 years in school and achieve proficiency in skills equivalent to a fifth grade level. This is 13 years of effort for five "traditionally defined" years of growth. However, this student **is proficient** at the fifth grade level and is, therefore, as competent at a fifth grade level as any student in the school. He or she is competitive for any job that requires fifth grade level skills. This is a very different process than socially promoting students through school, exposing them to many areas, but having them achieve proficiency in very few of them.

When specific proficiency standards are stated, in the remainder of the article, these will be in terms of a correct and error standard (accuracy) over time (fluency).

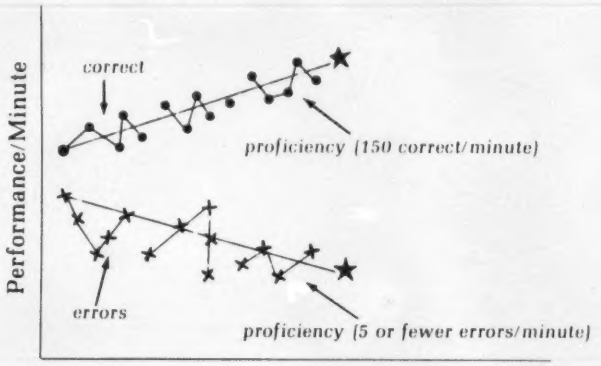
Learning Measurement

Most past and present evaluation procedures have been measures of student performance at a certain point in time (e.g., achievement tests, diagnostic tests, unit tests, criterion-referenced tests). To obtain a measure of learning, it is necessary to take *repeated* measures of performance over a period of weeks.

It is obviously not feasible to give an achievement test or a unit test each day for two weeks in order to watch a **change in student performance** (i.e., learning). However, it is very feasible to sample a student's performance for one, two or three minutes each day.

The measurement of learning as used in this article will always involve taking these short performance samples each day as a student moves from a point of non-proficiency to a point of proficiency.

Graphically, such change in performance (learning) might look like the following:



Each dot and "x" combination represents the correct and error performance for one day's performance sample. In this example it took three weeks (15 school days) for the student to move from a point of non-proficiency to proficiency.

A standard chart that we use for the purposes of representing student learning is shown in Figure 1. (For more information regarding the chart see *Teaching Exceptional Children*, spring 1971). By maintaining such learning information it is possible to change a student's instructional program if his or her learning is not rapid enough.

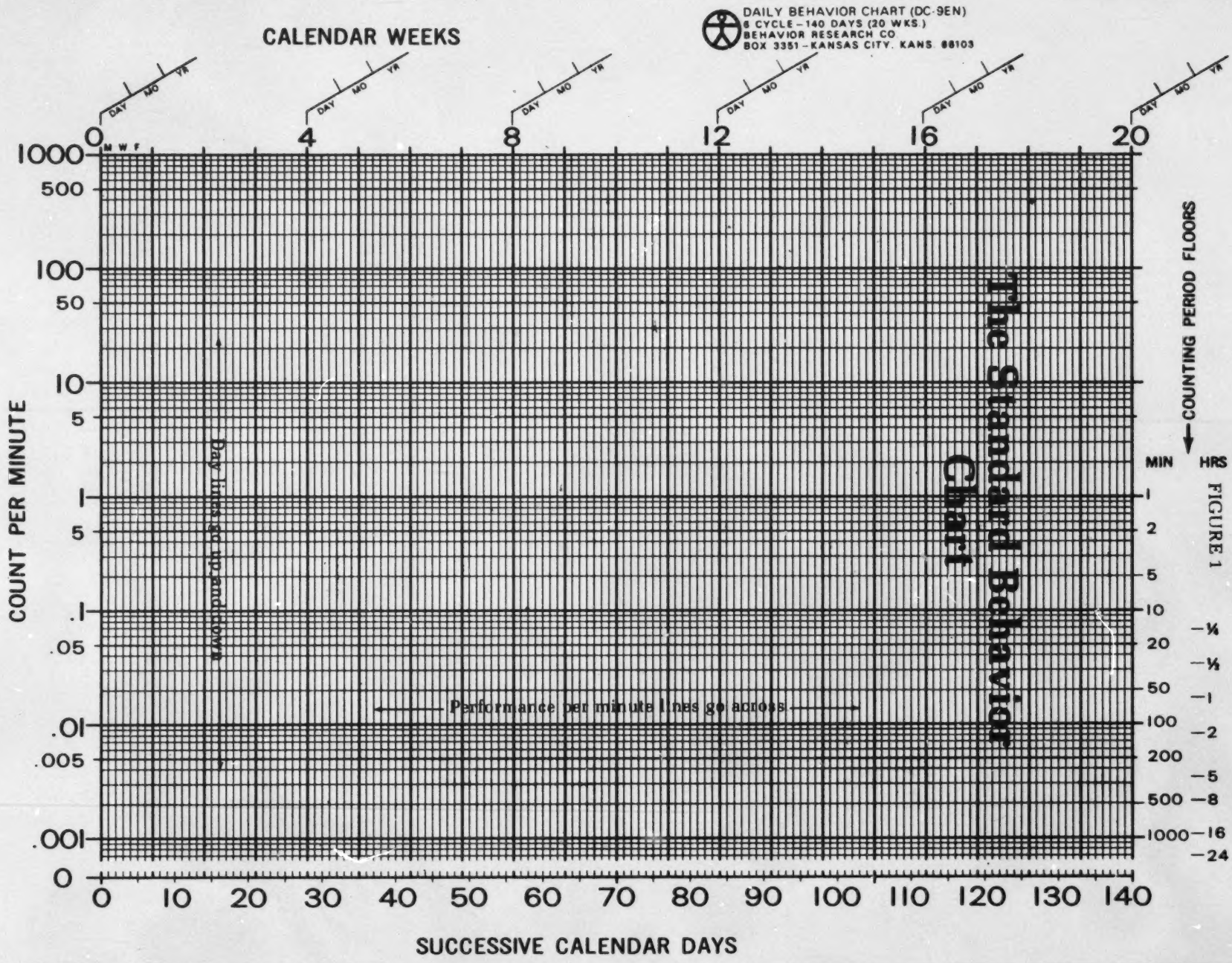

DAILY BEHAVIOR CHART (DC-9EN)
6 CYCLE – 140 DAYS (20 WKS.)
BEHAVIOR RESEARCH CO
BOX 3351 – KANSAS CITY, KANS. 66103
CALENDAR WEEKS
DAY MO YR
0 4 8 12 16 20
M W F
1000
500
100
50
10
5
1
5
.1
.05
.01
.005
.001
0
COUNT PER MINUTE
Day lines go up and down
Performance per minute lines go across
The Standard Behavior Chart
COUNTING PERIOD FLOORS
MIN HRS
1
2
5
10
20
50
100
200
500
1000
¼
½
1
2
5
8
16
24
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140
SUCCESSIVE CALENDAR DAYS
SUPERVISOR
ADVISER
MANAGER
BEHAVER
AGE
LABEL
COUNTED
DEPOSITOR
AGENCY
TIMER
COUNTER
CHARTER

FIGURE 1

A measure of learning complements the proficiency concept in the decision making process. Knowing precisely where we are going (proficiency) and having a means to monitor progress toward that goal (a measure of learning) allows us to become more highly skilled teachers.

The remainder of the article looks in depth at the word pronunciation area and briefly at the comprehension area.

Word Pronunciation

What Is Our Outcome Goal?

The outcome goal of word pronunciation instruction is to teach students to accurately and fluently pronounce (orally and then silently)[1] a large number (i.e., 10,000-60,000) of printed words.

Our *word pronunciation* outcome goal is *not* to teach students:

1. to sound out words
2. to learn letter names
3. to learn sound-symbol relationships
4. to blend sounds together
5. to identify syllables in words
6. to underline silent letters, or vowels in words ad infinitum

All of these items are instructional activities (not outcome goals) which may or may not be helpful in teaching students to pronounce words. In fact, most of these items are making learning to read more difficult rather than less so.

What is crucial to remember while reading this article, as well as in your own teaching of reading, is that our teaching and evaluation focus is on the pronunciation of total words. It is necessary to judge the effectiveness of all our teaching by the effect it has on learning to pronounce words (not attack words, recognize words, identify words, etc.).

What Are the Prerequisites to Learning to Read?

The intellectual capability in learning to "hear" words is parallel to that involved in learning to "see" words. Consequently, if a child has learned to speak, he/she is capable of learning to read and without traditional "reading readiness" instruction.[2]

Following is a checklist of the prerequisite criteria that a student should meet prior to beginning reading instruction. If we can place a check mark next to each of these items, a student is ready to read.

- ☐ 1. is proficient in speech and language
- ☐ 2. has adequate hearing and vision (with corrections or aids if necessary)
- ☐ 3. is motivated (usually not a problem, most students are anxious to learn to read by school-age)
- ☐ 4. the initial words to be introduced in reading are part of the student's speaking vocabulary (most students entering kindergarten, even many who would be considered moderately handicapped, will have a speaking vocabulary of around 6,000 words)
- ☐ 5. can demonstrate understanding that printed letters in different combinations represent spoken words
- ☐ 6. knows letter names

Literally, letter names should not be considered a prerequisite to learning to pronounce words as units. If the student understands criteria number five, it is not necessary that he/she knows the names of the letters. However, by providing names for the 26 funny squiggles that make up the different words: the student and teacher can talk about the letters, the student can recognize that these different letters occur over and over in different words, and the student should be less confused--as when students know everyone's name in the classroom compared to the first day of class when they do not know anyone's name.

It is doubtful whether the "readiness" activities that follow, which are commonly part of many reading readiness programs, have a direct relationship to learning to read better. As a matter of fact, some of these activities may make the beginning reading process more confusing.

1. sound-symbol relations and blending
2. visual discrimination activities
3. auditory discrimination activities
4. visual-motor activities
5. visual memory activities
6. auditory memory activities

Following are a few reading readiness instructional ideas that can be particularly helpful.

1. Read to the child often (at both home and school) and make sure the child can see the print. While reading, point to the words in the book moving your finger in a slow left to right direction.
2. Have students practice saying words from word/picture cards or worksheets.
3. Use situational writing (e.g., when saying "good morning," write it on the board).
4. Point to signs, labels, etc. in the environment and read them out loud.
5. Use book-tapes where the child can follow along in a book as a story is told on the tape.
6. Have printed material (books, magazines, newspapers) accessible in all parts of home and school.

What Constitutes Word Pronunciation Proficiency?

Our goal is to have students learn to pronounce words. However, with any given material (e.g., basal readers, textbooks, word sheets, newspapers, library books), at what point is a student proficient and ready to move on to new material?

In Table 1 on page five are the proficiency standards we use in the word pronunciation area.

[1]To be sure that a student is proficiently pronouncing words accurately and fluently, initially emphasize oral reading. Once proficiency is established with a set of words, emphasize silent reading from that point on.

[2]Certainly pre-school children who have limited speech and/or language skills, upon entering school, will require a speech and/or language program before reading instruction begins.

Table 1

Pinpoint	Proficiency Standard
reads isolated words from a sheet	80-120 correct/min. 2 or fewer errors/min.
reads words in isolated phrases or sentences from a sheet	150-250 correct/min. 5 or fewer errors/min.
reads words orally in-context	150-250 correct/min. 5 or fewer errors/min.
reads words silently in-context	350-900 correct/min. 5 or fewer errors/min.

The best way to get some comfort and confidence with these standards is to pick up a textbook, a newspaper, etc. and read each of them (orally and silently) for one minute at a comfortable pace. Count up the number of correct and error words you read during each minute. If you are proficient, by definition you will fall within these proficiency ranges.

The proficiency standards are in terms of a range because reading rate will vary depending on: the complexity of the vocabulary, the familiarity with the content, the purpose of the reading, etc. The low end of the correct range represents a minimum standard, regardless of the material, and the high end indicates where accuracy will begin to break down because performance is too rapid.

Concern is sometimes expressed because the same standards are used for "normal" adults through pre-schoolers. If the basic teaching tactics (discussed later in this section) are employed, all students can achieve the same standards. Looking at the normal speaking fluencies of adults versus pre-schoolers demonstrates why this is feasible. Adults and pre-schoolers talk within approximately the same fluency range (i.e., 150-250 words per minute), which is the same range identified for oral reading proficiency. Consequently, pre-schoolers have the **potential** to read as fluently as they talk.

These proficiency standards for the first time have given us a quantitative point that defines when a student has established words in his/her long-term memory. This means that when we leave one set of words to work on a new set, we can be confident the student will remember the previous words.

A few final points before leaving the proficiency area. (1) The reason for having a student read orally is to substantiate that she/he can in fact pronounce the words proficiently (accurately and fluently). Once this has been substantiated, the focus should shift to silent reading. (2) The fluency ranges are lower for the isolated word sheets because it is not possible to move as smoothly through this material as through in-context material. (3) For those persons more accustomed to an "accuracy alone" mastery criteria, note that all of the proficiency standards are above a 96% accuracy standard.

What Procedures and Materials Shall We Use to Evaluate Reading Performance?

The focus of evaluation is on the student's ability to pronounce words, not on evaluating those institutional activities (e.g., marking syllables, blending) mentioned earlier in the section.

The materials to use for evaluation are the same materials used for teaching reading in the classroom. No other outside test or materials are necessary. Following are the steps to follow in conducting an oral reading evaluation sample regardless of the material (e.g., word sheet, newspaper, textbook, library book).

1. Identify persons to help record (e.g., proficient peers, older students, aides, parent helpers).
2. Use duplicate materials. One for the student to read from and one covered with a sheet of mylar or plastic film for the recorder to follow along on and mark incorrect responses.
3. Tell the student to skip any words he or she does not know.
4. Sample performance for one minute.
5. Ask the student to "please begin;" start the one-minute timing. (Use an accurate timer, preferably with an auditory signal).
6. Place a slash mark in your copy of the material where you started the timing.
7. As the student reads, place a check mark over any errors (i.e., mispronunciations and words skipped).
8. When the one-minute sample ends, say "please stop," place a slash mark on your copy to indicate where the timing ended and say "thank you." (If a sample finishes in the middle of a page or story, place a slash at this point and allow the student to finish the page or story.)
9. Count the total words covered during the one-minute timing (i.e., words between the two slashes). Count up words in materials that are read frequently, and place the counts down the right-hand margin to save re-counting every time a sheet or page is read.[3]
10. Count up the total number of check-marked errors (i.e., mispronunciations and words skipped) made during the one-minute timing.
11. If you desire a record of the errors, copy these on a separate sheet.
12. Subtract the number of errors from the total words covered to get the number correct (total words - errors = correct words).
13. Chart the correct and error scores on the standard chart (Figure 1). Use a (.) for correct and an (x) for errors on the appropriate day line. (To evaluate how a student is learning (i.e., moving from non-proficiency to proficiency) we merely take repeated samples each day and represent each on the standard chart.)

Silent Reading. Any need to evaluate silent reading performance will usually relate to monitoring silent reading fluency versus accuracy. We should have already substantiated reading accuracy through oral samples.

[3]Whenever possible the student should carry out steps 9-13.

The material used in silent reading evaluation should also be classroom material. The procedures for recording silent reading performance are the same as for oral reading, except there is not a need for duplicate material or a separate recorder.

An auditory signal timer will enable the student to read for a minute and place a start and stop slash in the material where the timer indicated the minute started and ended. The student can also mark with a pencil any unknown words. This may be particularly useful in material introducing new concepts. The student should then compute the correct and error frequencies and chart them.

It is not necessary to maintain a detailed error analysis record as is done in most reading diagnostic tests for the following reasons:

1. If too many errors exist (i.e., the student is not learning) it is better to slice back to material with fewer errors rather than stay at a level and develop an elaborate error remediation program (i.e., build a new foundation versus patch up an old one).
2. Reading fluency (the total words per minute) provides an index of those error categories which interfere with fluency (i.e., self corrections, repetitions and external or internal sounding out). The more of these errors, the slower the reader; the fewer of these, the more fluent the reader.
3. Often the diagnostic process identifies and then implies needed remediation for medial vowel problems, endings, beginning syllables, etc. This process focuses on the components of word pronunciation rather than on the outcome goal of the entire word. By maintaining a focus on the whole word and using the basic teaching tactics (discussed later in the section), students learn error words faster.

In summary, the materials that are available in your classroom should be used to evaluate word pronunciation skills. It is not necessary for purposes of classroom decision making to use any type of test (i.e., achievement, diagnostic, home made, factory made). By following the recording steps outlined and using your classroom materials, you will have information that will translate directly into instructional placement.

How Do We Determine Instructional Placement?

An instructional placement decision involves determining from what material(s) a student will learn best. Remember, we may wish to have a student use more than one reading material (e.g., library book, basal reader, textbook, newspaper) at the same time.

Since the primary concern is word pronunciation skills, the focus of the instructional placement section is in the oral reading area. A student should be encouraged to read silently in those materials in which she or he has achieved word pronunciation proficiency.

The first step in the instructional placement process is to identify those materials that could be used in your classroom setting. From these materials develop an informal reading inventory (IRI). This IRI might take a form such as:

1. a passage from the beginning, middle and end of each basal reader
2. passages from selected library books
3. passages from selected sections of different optional textbooks
4. passages from different newspapers or magazines, or certain sections of the newspapers or magazines

To facilitate ease and accuracy of recording, these passages should meet the following criteria:

1. be at least 300 words in length.
2. be a running narrative versus poetry, dialogue, etc.
3. have a cumulative word count for each line, down the right hand margin.

After the IRI passages have been selected, have the student read for one minute each selected passage until an instructional level is found. (The recording procedures described under "What Procedures and Materials Shall We Use?" should be followed during the instructional placement process.)

The guides for instructional placement are presented in Table 2. There are three different levels represented: 1) at the **proficiency level** the student knows the material and should move on to new skills or concepts, 2) at the **instructional level** the student is not proficient and additional learning is required but the skills or concepts are not too difficult, 3) at the **frustration level** the skills or concepts are too difficult for rapid learning to occur.

Table 2

Level	Performance Criteria	Action
Proficient:	150-250 words read correctly per minute and 5 or fewer incorrect per minute	Move (to new level)
Instructional:	70-149 words read correctly per minute and/or 6-10 incorrect per minute	Stay (at this level as an instructional level)
Frustration:	0-69 words read correctly per minute and/or 11 or more incorrect per minute	Slice (to a lower level)

In making a decision about where the performance on any given passage should fall, begin decision making by checking the student's performance against the frustration level. If the performance falls into the correct **and/or** the incorrect range, **slice** to a lower level. If the performance does not fall within the frustration range, check it against the instructional level. **Stay** at the instructional level if the performance falls into the correct **and/or** incorrect range. If performance does not fall into the instructional range, the student is proficient and should **move** to a new level.

These criteria are guides and not rigid standards. The classroom teacher must make the final decision. It is important to remember that a student must have a **sizable number of errors** and be relatively slow in fluency of performance when he/she first begins

working at a level. Otherwise, there is literally no room for **learning.**

Ideally, it would be desirable to obtain a measure of learning on each passage versus a single performance sample. This would tell us in which material(s) the student learned best. However, this would require seven to nine days of information for each passage and in most situations this is not practical.

After selecting material for instruction, we should obtain a daily sample and represent it on the standard chart in Figure 1 to be assured that learning is in fact taking place.

What Are the Most Effective Teaching Tactics?

The student is placed instructionally, the proficiency standards are established, and we know how to monitor progress toward proficiency. The next logical question is what to do instructionally to ensure the student will learn.

Historically, word pronunciation instruction has had an analytical emphasis (even the old sight emphasis materials eventually introduced analytical procedures). This analytical focus is seen in such activities as: detailed error analysis, sound-symbol relationship instruction, syllabication instruction.

Since the outcome goal in the word pronunciation area is to pronounce words, students should be practicing pronouncing words not learning how to analyze them. Students should learn to read words in exactly the same way that they learn to speak them--through being repeatedly exposed to the **word as a unit** and then practicing the pronunciation of that word until proficiency is achieved.

If a student can learn to auditorily discriminate thousands of words without analytical instruction, then reproduce these words while speaking, he/she certainly can visually discriminate these same words without analytical instruction.

The fundamental variable which determines how quickly students learn new words, regardless of the instructional approach (e.g., phonics, linguistics, language experience, sight), is how many times they see the word and can practice saying it. Unfortunately, analytical approaches have not merely been neutral but have usually served to slow down the learning and subsequent retention of words.

The analytical approaches have emphasized that accuracy is paramount and that fluency matters very little. For this reason many children are tense, slow, perfectionistic, overcautious and non-spontaneous. (The fear of being wrong! Feel familiar? Most of us have also learned this.)

We need to calm down about errors, stop requiring perfect performance. Let students work on materials where they have a good many errors, treat errors as positive "opportunities for learning" rather than as appalling ignorance.

Many supplemental teaching procedures (e.g., games, teaching machines, workbook activities, group reading) are also slowing down learning because of the same overemphasis on accuracy.

So what is left? How should we be teaching reading?

We have found the following four teaching tactics particularly helpful in creating rapid learning.

1. Appropriate slicing of curriculum +
2. Demonstrate (show) +
3. Direct practice +
4. Natural consequences =

Most rapid learning

How successful any given reading program is will depend on: 1) how consistently the program employs these teaching tactics and 2) how well the program maintains a focus on the outcome goal of "pronouncing words." None of these four teaching tactics is new, but the consistent emphasis we place on them is novel. It is important to remember that they are universal and applicable to all ages and all curriculum areas.

Therefore in its most generic sense, a reading program should involve: 1) finding the appropriate slice of curriculum (i.e., one in which the student can learn) through the instructional placement process, 2) providing whatever instruction and demonstration is necessary (i.e., telling students how to pronounce words), 3) allowing the student to directly practice pronouncing the words each day and 4) providing feedback regarding progress.

Specific examples under each of these teaching tactics will be provided in the remainder of the teaching tactic section.

Appropriate Slicing of Curriculum

This concept involves giving students curriculum with more or different concepts if they are proficient on a level, and curriculum with fewer concepts if they are frustrated on a level.

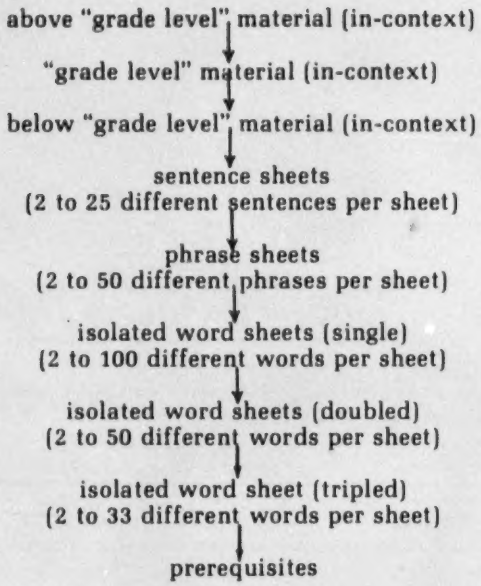
If we give a student 20 vocabulary definitions to learn in a week and he/she learns them in a day, give him/her 50 per week. If he/she learns 50 in a day, give him/her 100 a week.

If a student has difficulty with 20 new sight words per week, slice the list to 15 or 10. If this is still too difficult, try five words, or even two.

Instructional placement means finding the correct slice of curriculum that will truly require learning but will also enable each student to achieve success relatively quickly (e.g., every two weeks). The beautiful thing about the slicing concept is that two students can be learning at exactly the same rate, yet one is learning five concepts in two weeks while the other is learning 100 in two weeks. However, the effort was equal for both, and hopefully, so was the pride of accomplishment.

One of the first things to think of, if the student is either bored or frustrated, is whether to increase the slice of curriculum or slice it thinner.

A list of some different reading materials follows with the most complex at the top and the least complex at the bottom. Moving down these levels provides a student a thinner or less complex slice of curriculum and moving up the levels provides a thicker or more complex slice of curriculum.


above "grade level" material (in-context)
"grade level" material (in-context)
below "grade level" material (in-context)
sentence sheets
(2 to 25 different sentences per sheet)
phrase sheets
(2 to 50 different phrases per sheet)
isolated word sheets (single)
(2 to 100 different words per sheet)
isolated word sheets (doubled)
(2 to 50 different words per sheet)
isolated word sheet (tripled)
(2 to 33 different words per sheet)
prerequisites

If a student remains at a frustration level (based on the instructional placement guides mentioned earlier) in the lowest in-context material, slice to the sentence, phrase and/or word sheets until it is possible to move back into in-context material.

These sheets are made up by merely filling up an 8 1/2 x 11 page with sentences, phrases or words. For instance, a standard isolated word sheet will have 100 words on it. Depending on the slice the student can handle, there could be 100 different words or two different words repeated 50 times each.

For some students it is helpful to have the words on a sheet doubled (e.g., jump/jump/sister/sister, etc.) or tripled to provide more concentrated practice.

Of course a student may be working on more than one level at the same time. A fifth grade student may be reading in-context at an instructional level in a third grade reader and practicing his/her error words and/or new words on an isolated word sheet.

Notice that all the way through the different slicing levels, to the prerequisite level, a word pronunciation focus is maintained. There is not a diversion into an error analysis program.

Demonstration (Show)

Often our verbal explanations are too abstract. Consequently, it is essential to **show** students what to do and sometimes guide them through the activity a number of times before letting them practice on their own.

By doing a good job of instructional placement (placing a student on an appropriate slice of curriculum), the need for elaborate explanations and demonstrations is reduced. Often we are required to provide elaborate and repeated explanations and demonstrations because the curriculum placement is too difficult.

The basic demonstration necessary in word pronunciation is correctly pronouncing new words. Demonstrating fluent, accurate reading, on material a student is working on, will also provide a model for her/him to follow.

Direct Practice

Direct practice refers to practicing the exact skill(s) or concept(s) to be learned. (i.e., outcome goals). **Indirect practice** involves practicing activities related to the skill or concept, but it does not involve practicing the actual skill(s) or concept(s).

In the word pronunciation area, this means working in materials which require pronouncing words versus fill-in or matching activities in workbooks, playing academic games, watching filmstrips, etc. While working on the word pronunciation areas, allow at least 45 minutes a day for a student to practice reading. Following are listed some of the different practice options to employ:

1. Re-read material (e.g., word sheets, pages of books, stories) in a timed format.
2. Encourage students to think of (visualize) the words they are learning--inner practice.
3. Tape record selection at a proficiency level and have students read in unison with the tape.
4. Have a "practice sign-off card" for students to have signed during the week, each time they read to a person outside the classroom.
5. Transfer practice (e.g., if a student learns a word in one textbook, have him/her practice finding and saying the word in a half-dozen other sources).
6. Use pacing or flashing devices that can be set at a proficiency level (e.g., language master, controlled reader).
7. After achieving oral reading proficiency on in-context material, have students practice reading the material silently.
8. If students learn to mark their errors during practice sessions, have them practice these words on isolated word, phrase or sentence sheets.

Direct repeated practice is the one procedure that is essential for learning. Those things we do proficiently are things we have practiced; many times to the point where the skill is automatic and there is no longer a need to consciously think about doing it. This automatic level is what to strive for in building reading vocabulary.

Natural Consequences

Information regarding use of reward and punishment procedures has been part of classroom knowledge for a number of years. The difference in emphasis suggested here is to concentrate on those rewarding and punishing events that are a natural outgrowth of how the student behaves rather than artificially devised consequences. For example, the natural reward for performing well is to see a numerical gain in correct performance and/or a numerical loss in error performance. By doing a good job in placing a student, he/she should see improvements nearly everyday until he/she achieves proficiency.

Following are a few specific reward and punishment ideas relating to the word pronunciation area:

Reward Ideas

1. For students not reading in-context, use "reading in a book" as a reward for achieving proficiency on word, phrase or sentence sheets.
2. Have students identify words in library books, newspapers, recipes, directions, etc. that they want to learn. Provide reward for mastering (use proficiency criteria) these words on their own.
3. Have a reading party! Students bring their own material to read. Have refreshments. Buy, sell and/or trade books; have dramatic readings, free silent reading, etc.
4. Allow students to skip a portion of a book for reading a designated section proficiently.
5. Show improvement on standard chart.
6. Let students decide which stories to read.
7. Take pictures of students while reading.
8. When students achieve proficiency, make an audio tape of their selections.

Punishment Ideas

1. Withdraw privilege of reading.
2. Show lack of improvement on chart.

In summary, the instructional emphasis being suggested is similar to how the old "sight emphasis" programs introduced and practiced new words (prior to when these programs began phonics instruction). However, there are two crucial differences: 1) The sight emphasis programs did not define proficiency in terms of accuracy and fluency and consequently students often did not get enough practice on new words to ensure long-term retention. 2) The programs did not fully grasp how thinly to slice material to find an instructional level for the slowest learning students.

This section has diverged from the measurement focus by recommending specific teaching tactics. However, if we follow these teaching tactics, we can teach all students to read (who meet the readiness criteria) regardless of the curriculum being used.

The ultimate proof will rest with our measures of learning. If no learning is occurring in the existing instructional program, then regardless of the teaching tactics or materials being used, some changes need to be made.

Reading Comprehension

Space does not permit an elaborate discussion of the comprehension area. However, not a great deal of space is really needed. As much as the area of "reading" comprehension is discussed, it is seldom, if ever, an isolated problem.

First of all it is somewhat deceptive to say that the goal of reading instruction is comprehension. This is certainly true but it is also the goal of nearly everything else we do in school.

Secondly, it is possible to teach a student the skills of comprehension (or thinking) using stimulus procedures other than print (e.g. still or motion pictures, recalling an experience, listening.)

Very few students, who have word pronunciation proficiency in specific reading material, will have difficulty in comprehending this material. The vast majority of students who are referred for "reading" comprehension problems do not understand what they read because they lack fluency and/or accuracy in word pronunciation skills.

Those students who truly have a *reading* comprehension problem will have a generalized comprehension (thinking) problem that can be evaluated through the other stimulus procedures equally as well as through print.

Certainly the comprehension (thinking skills) area is fundamental to the entire educational process. It is vital that we learn to teach and evaluate in this area, particularly for students who have thinking skill problems. However, bear in mind that comprehension is not a concept exclusively or uniquely tied to reading.

In an abbreviated form, the remainder of this section will cover the same questions that were dealt with in the word pronunciation section. By reflecting on the word pronunciation discussion you should be able to follow this abbreviated format.

What Are the Outcome Goals of Reading Comprehension?

If we should be teaching the same skills in school that students will need in the real world, we are on the wrong track as it relates to reading comprehension. Characteristically, the skill students perform in school is "answering oral or written questions about material read". When is the last time you did that in your day to day activities?

The reading comprehension skills we do use in daily life which should be emphasized in school are:

1. summarizing information in your own words (e.g. talking with a friend about a novel, a newspaper editorial, a magazine article)
2. following written directions (e.g. recipes, common forms, repairing or assembling directions)
3. asking questions (e.g. Before we pick out a novel we may ask--What is it about? What else has the author written? I wonder if I will like this book?)

The skill that is most frequently used in daily living is "summarizing information in your own words". Consequently, most school time should be spent on this skill.

What Are the Prerequisites to Reading Comprehension?

1. Proficient speech and language
2. Proficient word pronunciation skills[4]

[4]It is important to remember that we can and should be working on listening, free-recall and picture comprehension until a student achieves word pronunciation proficiency in some reading material.

What Constitutes Reading Comprehension Proficiency?

Table 3

Pinpoint	Proficiency Standard
Summarizes information in your own words	20-30 correct pieces of information/minute 2 or fewer incorrect pieces of information/min.
Follows written directions	5-30 correct/minute 2 or fewer incorrect/min.
Asks questions	10-20 correct/minute 2 or fewer incorrect/min.

What Procedures and Materials Should We Use to Evaluate Reading Comprehension Performance?

Summarize information in your own words. After students have finished reading a particular selection they should "summarize in their own words" what they read: to the teacher, a partner or another classroom helper. Ideally the summary should be one minute (to eliminate necessity for dividing) but two or three minute summaries may be necessary for longer reading assignments.

The student should talk at a normal conversational pace and each time a correct (or incorrect) piece of information is stated, the recorder should make a correct or incorrect tally. As in the word pronunciation area, this correct and error information can then be represented graphically on the chart in Figure 1.

Follow written directions. Ideally, the material used here should come from the real world (e.g. forms, policies, phone books, recipes, building and assembling directions).

To evaluate performance in these materials, merely establish a certain time period for the student to perform (e.g. 10 minutes) and count up the number of directions followed correctly and incorrectly. Dividing the correct and error counts by the time segment provides the standard "performance per minute" unit to chart, and compare to the proficiency standards.

Ask questions. This can be done before and/or after reading a selection. This pinpoint also requires a recorder to keep track of the correct and incorrect questions asked. A one minute sample time should be sufficient for this area.

How Do We Determine Instructional Placement?

The guides in Table 4 can be used for instructional placement in the "summarizing information in your own words" area.

There are not similar guides that have been tested for the "following directions" and "asking questions" areas. However, you can approximate these guides by using the proficiency standards and working down from these as was done in the "summarizing information" area.

Table 4

Level	Performance Criteria	Action
Proficient:	20-30 pieces of information stated correctly per minute and 2 or fewer incorrect per minute	Move (to new material)
Instructional:	10-19 pieces of information stated incorrectly per minute and/or 3-6 incorrect per minute	Stay (With this material as an instructional level)
Frustration:	0-9 pieces of information stated correctly per minute and/or 7 or more incorrect per minute	Slice (to find instructional level)

What Are the Most Effective Teaching Tactics?

The four basic teaching tactics are universal so they stay the same even though the curriculum area changes. Consequently, the best way to ensure learning is to **demonstrate** desired performance in the various comprehension skills; provide students with the opportunity to **directly practice** "summarizing information in their own words," "following written directions" and "asking questions;" provide **positive feedback** about progress and **slice** back if learning is not occurring.

Summary

Although it is a slight simplification, I think it is useful to think of the reading area as constituting two basic goals: 1) pronouncing words (orally and then silently) and 2) summarizing information read in your own words. Everything else we do under the guise of reading instruction must be evaluated in terms of its effect on these basic goals.

As long as we follow the proficiency standards, maintain up-to-date charts of student learning and employ the four basic teaching tactics, we will be successful in teaching students to read regardless of the curriculum being used. However, the more we move away from curriculum and evaluation procedures that emphasize an analytical approach, the more rapidly learning will occur.

It was not possible to go into detail on how to organize a classroom to implement the concepts presented. However, I do not believe that a printed format is the best forum in which to provide detail. I would suggest getting involved in a workshop setting where you can: see "demonstrations," "practice," "slice" when necessary, and "see your own progress".

Every student who has learned to speak has the ability to learn to read and understand what she/he has read. If we work together, at all levels of the educational enterprise, I am confident we can create one reader for every talker. It may never be easy to mix all the right ingredients to make this a reality. However, by employing the concepts presented here, I hope you will find this goal more easily attained.

Academic Assessment in the Identification of Emotionally Disabled Pupils

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Paper Outline

Introduction

What Academic Data Is Useful in the Identification Process?

1. Present Level of Knowledge or Skill
2. Expectancy Level of Knowledge or Skill
3. Rate of Learning
4. Specific Learning Difficulties and/or Learning Style
5. Level of Motivation
6. Prior Academic Related Interventions

What Potential Instrumentation Is Available?

1. Norm-referenced Intellectual Ability Tests
2. Norm-referenced Educational Achievement/Diagnostic Tests
3. Criterion-Referenced Assessment Tests
4. Work Samples
5. Observation
6. Questionnaire or Interview
7. Teacher Estimates
8. Record Review

How Can Assessment Needs and Potential Instrumentation be Combined to Provide Adequate Documentation?

How Diagnostic Information Is Synthesized

1. Present Level of Knowledge or Skill
2. Expectancy Level of Knowledge or Skill
3. Rate of Learning
4. Specific Learning Difficulties and/or Learning Style
5. Level of Motivation

Appendix A

Appendix B

Bibliography

Academic assessment in the process of identifying emotionally disabled pupils assumes its importance by nature of federal and state definitions. Lambert & Bower (1961) refer to an academic characteristic in their definition of emotional disabilities currently used under Public Law 94-142 as follows: "An inability to learn which cannot be explained by intellectual, sensory, or health factors." Similarly, the *Rules of Special Education*, Iowa Department of Public Instruction (1977) indicate that for an emotional disability to be educationally relevant it must be exhibited in the school setting, often resulting in interference with the learning process.

The commonly held assumption that emotionally disabled pupils also exhibit academic or educational disabilities has been researched with often conflicting results and little conclusive evidence of any cause-effect relationship. These discrepancies largely appear to be due to the differences in the samples of children in the various studies.

As in most cases of behavioral research on broad classifications of disabilities, the heterogeneous placement of children into these specific categories tends to confuse and bias the results of the research (Bannatyne, 1974). Bower (1969) also discusses the difficulties presented by such a heterogeneous population as is found in emotional disabilities.

Spivack & Swift (1969) analyzed the relationship between academic achievement and classroom behavior, indicating that underachievement is evidenced not only in grades and test scores, but also in terms of maladaptive overt behavior exhibited in the classroom. Studies of specific academic areas by Jastak (1953) have shown that reading, as measured by the Wide Range Achievement Test (WRAT), tends to be one of the outstanding achievements of emotionally disturbed people. Further, he found reading achievement increases proportionately with the degree of disturbance. "A fearful, sensitive, insecure autistic child will learn to read faster than a child who perceives reality without fear." Jastak (1946) considered arithmetic disabilities to be indicative of severe personality disturbance and more often associated with personal maladjustments than reading disabilities.

Many others studying the relationship between emotional disabilities and academic achievement report that children so identified were in fact deficient in both reading and arithmetic with the greater relative underachievement in arithmetic (Bower, 1960; Stone & Rowley, 1964). While Tamkin (1960) found that his sample had significantly lower scores in arithmetic than reading, he did not find any relationship between emotional disabilities and educational disabilities.

Others have speculated on the relationship of specific categories of emotional disabilities and general academic performance. Cattel & Cattel (1969) found ego strength to be positively related to academic performance. However, Stewert & Louisa (1976) found the opposite to be true. "The emotionally disturbed adolescent who is low in ego strength, tense, guilt prone, sensitive, shy, and submissive tended to be more intelligent and demonstrate better academic achievement."

Graubard's (1964) study of conduct-problem pupils and underachievement supports the premise that ego strength is negatively related to academic performance on the grounds that his adjudicated subjects were below expected achievement levels in reading comprehension, and all showed some degree

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of disability in arithmetic computation. Werry (1968) looked at hyperactive children and also found a strong tendency toward underachievement with this population.

Many studies have indicated that emotional disabilities can be inferred from either a change in the rate at which an intellectual or educational ability develops across time or from fluctuations in the ability as measured at various points in time. These changes in rate of growth and fluctuations in achievement were reported by McHugh and others who found greater test variability in the emotionally disturbed child than in the normal child (McHugh, 1963; Woody, 1967; Petrie, 1962; Schoonover & Hertel, 1979).

Although research generally supports the relationship of emotional disabilities and academic underachievement, studies remain inconclusive. Until such time that more appropriate homogeneous placement of emotionally disabled children into research populations occurs, conflicting results will probably continue as to the specific nature and cause of their educational deficiencies.

Research which supplies us with behavioral observations during testing indicative of emotional disabilities is minimal. Sattler (1974) suggests general diagnostic indicators observable during testing that include irritability and suspiciousness, restlessness, lack of spontaneity, variable mood, apathy, euphoria and dysphoria. He goes on to describe language difficulties suggestive of emotional disturbance such as rambling, blocking, clang associations, circumlocution, confabulation, over-elaboration and self-reference (see Figure 1). Indications of an anxiety state observable in the test situation were noted by Freeman (1962) to include difficulty in finding words: impulsively blurting out unfinished, unchecked or inappropriate replies and fumbling about for adequate formulations.

The nature of the research does not provide us with any high degree of predictability or methodology to analyze academic achievement information thereby leading to a clear-cut diagnosis. At best, emotional disabilities can be inferred through analysis of academic data and the accompanying behavioral observations.

Academic assessment has a well established position in any special education evaluation and is not, by any means, specific to the area of emotional disabilities. However, the use of academic data can greatly assist in the identification process and should not be dismissed as routine or non-specific to the area. The usefulness of academic assessment data is determined by the focus and synthesis of such data with respect to all other areas of documentation. A logical approach to gathering and analyzing comprehensive academic assessment data for the purpose of aiding in the identification of emotionally disabled pupils is much needed.

The development of a comprehensive approach for obtaining and using relevant academic assessment data should logically begin with the diagnosticians asking two questions: 1) "What type of academic data is useful in identifying emotionally disabled pupils?" and 2) "What kinds and amounts of data can be considered sufficient documentation?" This needs assessment will lead to appropriate decision making regarding the personnel and instrumentation needed to gather the data.

Figure 1

Behavioral Observations in Testing Indicative of Emotional Disabilities

1. **IRRITABILITY** - testy, edgy; easily annoyed
2. **SUSPICIOUSNESS** - mistrustful; imagining something is wrong on little evidence
3. **RESTLESSNESS** - unsettled, uneasy; continually on the move
4. **LACK OF SPONTANEITY** - absence of natural, voluntary or free will behavior
5. **VARIABLE MOOD** - changeable, unsteady disposition
6. **APATHY** - without feeling; indifferent
7. **EUPHORIA** - misleading or exaggerated sense of well-being not in keeping with real events

Language Disturbances in Testing Indicative of Emotional Disabilities

1. **RAMBLING** - incoherent talk; off task
2. **BLOCKING** - sudden difficulty in remembering; abrupt changes of subject; interruption of train of thought
3. **CLANG ASSOCIATIONS** - association of words or ideas with words because of similarity in sound; seen in psychosis
4. **CIRCUMLOCUTION** - round-about manner of speaking
5. **OVER ELABORATION** - extensive clarification or examples
6. **SELF REFERENCE** - talking about self; consistently bringing topic around to one's self

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What Academic Data Is Useful in the Identification Process?

Six types of relevant and useful academic data will be considered as follows: 1) present level of functioning, 2) expectancy level, 3) rate of learning, 4) specific learning difficulties, 5) level of motivation and 6) previously attempted academic interventions.

1. Present Level of Knowledge or Skill

Obtaining the pupil's current achievement level aids in determining if, and to what extent, suspected emotional difficulties may be interfering with learning. The need for this information is clearly evident in federal and state definitions, as mentioned earlier, which espouse the educational relevancy of emotional disabilities.

Of equal importance is the use of this information to serve as baseline data on which other data may be based and compared. A student may show quite

adequate achievement levels on testing, but when results are compared with work samples, a discrepancy revealing low productivity in the classroom is obvious. When current level of functioning is compared with past achievement scores, the onset of learning problems can be viewed. A consistent history of an academic deficiency may accurately reflect a chronic learning problem which in turn may now have resulted in a secondary emotional disability. Likewise, a successful achievement pattern prior to a sudden change in performance leads to the further exploration of causes for such an interruption in learning.

This does not necessarily imply that a cause-effect relationship can be ascertained by establishing the current functioning level alone. However, such data, when combined with information from other documentation areas, leads to inferences about possible events precipitating the presenting difficulties.

As baseline data, knowledge of present level of functioning adds meaning to expectancy level, rate of learning and even post treatment data.

2. Expectancy Level of Knowledge or Skill

The discrepancy in learning, which is established by comparing the derived expectancy with present level of functioning, is again central to the educational relevancy concept of emotional disabilities. The discrepancy between what the pupil is presently doing and what he/she is reasonably expected to do determines if an educational disability does in fact exist.

Expectancy may also serve to clarify the issue of determining the primary disability in those children who fall one to two standard deviations below the mean on measures of intellectual ability. Certainly such cases require in-depth documentation and close scrutiny to determine the appropriate diagnosis and program needs.

Although research generally indicates that there are no significant differences in the intellectual performance of emotionally disabled students and their normal peers (Rutter, 1964; Granick, 1955), it is extremely difficult to ascertain an accurate expectancy level due to non-intellectual emotional factors that interfere with all testing in general and more specifically with intellectual measurements. These non-intellectual factors which may interfere with the intellectual functioning of children were described by Weisskopf (1951) and include the following: anxiety, short attention span, poor self-esteem, immaturity and obsessiveness.

This word of caution is not meant to devalue the use of expectancy information in the identification of emotionally disabled pupils. It reflects the caution with which all data should be viewed, again emphasizing the need for extensive supportive documentation from all evaluation areas.

3. Rate of Learning

Research reported earlier supports the use of information reflecting changes in rate of academic growth or fluctuations in achievement as being indicative of emotional disabilities. When reviewing the pupil's records for such test variability, disruptions in otherwise consistent linear academic improvement should be explored for possible corresponding changes in behavior, emotional stability or significant traumatic experience. Rate of growth data needs to be analyzed with respect to sociological and behavioral information obtained in other documentation areas.

4. Specific Learning Difficulties and/or Learning Style

Data on the existence of any special learning problems serves to clarify just what is taking place in the learning process for the pupil of concern. While this information tends to be more diagnostically specific and therefore more useful in program and planning decisions, it remains relevant to the identification process and may aid in clarification and determination of the primary disability. The relationship of emotional and educational disabilities, as cited earlier, results in emotionally disabled students and learning disabled students sharing many similar observable behavioral characteristics. Information from this area may serve to aid in distinguishing the two disabilities. The difficulties of differentiation remain, and may be clarified by Figure 2. (See page 14.)

5. Level of Motivation

The effects of motivation on achievement have been explored by Finch, Nelson & Pezzuti (1975) who found that emotionally disabled chidren who perceive a relationship between their own behavior and the resulting consequences obtain higher achievement scores than those who do not.

Lack of motivation is an often cited observable symptom of emotional difficulties. The possibility of motivational problems should be explored once intellectual, health and sensory factors have been ruled out as causes of learning deficits.

Motivation, as it relates to academic functioning, is an important parameter to be investigated. The lack of motivation can interfere or explain the information gathered in the preceding sections, one through four.

6. Prior Academic Related Interventions

The nature of emotional disabilities makes it necessary to explore all possible classroom and instructional modifications available to the regular classroom teacher and his/her support staff prior to seeking the special services and the diagnostic label that it requires.

In addition to the above implications, documented interventions and their subsequent results may provide diagnostically important information regarding the type or extent of the presenting problem.

Securing data to respond to these six basic areas of useful diagnostic information will greatly assist the team in determining the educational relevancy of the possible emotional disability. Figure 3 summarizes useful academic assessment data. (See page 14.)

Figure 2

Emotional Disabilities and Learning Disabilities Differentiation*

Emotional Disabilities	Learning Disabilities
1. Academic deficiencies are believed to be the result of inappropriate or interfering behaviors in the classroom.	1. Academic deficiencies are **not** the result of behavior, but deficits in psychological processes.
2. Behavior does not seem to respond to traditional classroom controls.	2. Although behavior may be inappropriate at times, it does respond to traditional controls.
3. Achievement and WISC profiles are often consistent though may be depressed.	3. Sporatic performance on achievement and WISC profiles.
4. Great difficulties with interpersonal relationships.	4. Although difficulties may be noted, ability to establish and maintain satisfactory interpersonal relationships exists.
5. Consistently inappropriate behavior under normal circumstances and across various types of situations.	5. May have trouble in particular academic settings, but does quite well in other situations.

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Figure 3

What Academic Information is Helpful in Diagnosing Emotional Disabilities?

1. **Present Level of Knowledge or Skill** -What is the pupil's current achievement level?
2. **Expectancy Level of Knowledge or Skill** - What could reasonably be expected with his/her capacity?
3. **Rate of Learning, Particularly Noting Changes in Pattern** - Has the student been acquiring knowledge at a consistent rate over time?
4. **Specific Learning Difficulties and/or Learning Style** -Are there special learning problems? If so, are they indicative of another disability?
5. **Level of Motivation** - What is the pupil's current level of motivation on academic related materials?
6. **Prior Academic Related Interventions - What classroom and academic modifications have been tried by the teacher and his/her support staff?**

What Potential Instrumentation Is Available?

Once assessment needs are clearly defined, methodology for obtaining that information can be explored. There is not one individual test which supplies the needed information. A battery of diagnostic instruments capable of yielding a picture of the pupil which reflects the complexity of emotional disabilities should be used. Potential instrumentation is extensive and includes at least eight types of data collection:

1. Norm-referenced intellectual ability tests
2. Norm-referenced educational achievement/ diagnostic tests
3. Criterion-referenced assessment tests
4. Work samples
5. Observation
6. Questionnaire or interview
7. Teacher estimates
8. Record review (grades, previous tests, etc.)

1. Norm-Referenced Tests are psychometric instruments that are standardized on a particular population which becomes the referent. The primary function of such tests is to compare the child's performance to others of the same age or grade. Norm-referenced instruments used in educational assessment are generally of three types: 1) intellectual ability tests, 2) achievement or survey type tests and 3) diagnostic tests. Norm-referenced achievement tests survey current functioning levels in several academic areas and are designed in content for a variety of ages or grade levels. Norm-referenced diagnostic tests are similar but survey one academic area more extensively, providing more diagnostically relevant data.

Norm-referenced instruments generally have a limited number of items, not necessarily in developmental sequence. Therefore, the information obtained from such devices is diagnostically limited and general in nature, only confirming suspicions that the student is functioning below the level of his/her peers. Such tests also provide us with little assistance in determining specific skill attainment. Test responses do not indicate the processes underlying the passage of an item or the reasons for failure. Many believe that norm-referenced testing is an example of sacrificing diagnostic clinical thinking to statistical convenience. However, norm-referenced tests provide useful information about 1) current level of functioning, 2) expectancy level and 3) rate of learning when used in conjunction with other methods or types of instrumentation. Norm-referenced instruments must be valid and reliable.

2. Criterion-Referenced Tests are used to assess specific abilities and compare the child, not to other children, but to a set of standards. Such devices contain items arranged in developmental sequence within the specific area being assessed. Criterion-referenced tests are primarily designed to facilitate program planning where the concern is what has been mastered, then focusing on the next specific appropriate skill to be taught. However, because of the specific nature of such tests, they are often designed for certain groups, yielding them inappropriate for others. They also tend to measure "splinter skills" and may not provide a total picture of the child. Careful selection of criterion-referenced tests is essential. Criterion-referenced instruments can supply useful information about the pupil's present level of functioning.

3. Work Samples are an easily obtained method to view the pupil's typical functioning. If systematically collected over time to obtain more accurate data, the student's progress, skill development, motivation and possible learning problems may be inferred. Without a systematic method for analysis, there is little or no consistency from one evaluator to another.

4. Observation is the systematic watching and recording of the pupil's behavior within the typical school day. Observation is useful in noting present level of a skill, learning characteristics, interest and motivation, and patterns of adjustment. Using this technique, one can pick up on subtleties missed by other types of instrumentation. For observation to be of value, it must be systematically carried out over time. Some observational techniques useful for the area of academic assessment might include: 1) anecdotal records, logs, diaries, narratives; 2) videotape or audiotape recordings; 3) standardized observation devices; 4) flow logs or running records; and 5) systematic data collection.

5. Questionnaires and Interviews are direct approaches to obtaining information about the pupil's motivation and attitudes. Formal questionnaires are commercially available for the purpose of assessing academic related attitudes, and informal instruments may be devised. Interviews may be structured or unstructured, with the former providing specific information more quickly. The diagnostic use of results must be questioned in regard to validity.

6. Teacher Estimates, if reliable, can provide excellent information about the student's expectancy level and special learning problems. However, such information may be strongly affected by the teacher's own biases and prejudices.

7. Record Review provides pertinent antecedent data about the student's academic history and the situations affecting it. Palmer (1970) states that such information is vital "since it provides an estimate of both the rate of development and some of the past stresses or continuous stresses that may affect the child's current status." When conducting a record review, information on grades, attendance, previous testing, prior interventions, teacher comments, etc. are diagnostically significant when added to other test data.

A brief summary of the use, strengths and weaknesses of each data collection instrument is presented in Figure 4.

Figure 4

Potential Instrumentation

1. **Norm-Referenced Achievement/Diagnostic Tests**
   surveys current level of achievement in several academic areas
   samples extensive content for a variety of ages and/or grades
   published norm is referent - how the child's performance compares to other children ofr the same grade or chronological age
   limited number of diagnostically useful items, not necessarily in developmental sequence
   must be valid and reliable
2. **Criterion-Referenced Tests**
   concerned with measuring the individual growth & progress of child
   large number of specific, developmentally sequenced items
   designed to measure only what has been learned mastery is referent
   provide specific information needed to arrange instruction
3. **Work Samples**
   display typical functioning
   indicators of learning problems possible
   current level of motivation may be indicated
   easily obtained
   little consistency from evaluator to evaluator
4. **Observation**
   allows for view of typical behavior
   systematic procedures must be used to assure reliability
   can pick up on subtleties missed by other types of assessment
   provides information in many areas: 1) present level of skill, 2) learning characteristics of student, 3) interest and 4) attitude toward subject
5. **Questionnaires and Interviews**
   provide useful information about motivation and attitudes
   critical concern is that student responds truthfully
6. **Teacher Estimates**
   if reliable, can provide information about 1) expectancy level and 2) learning style and/or difficulties
7. **Record, Review of Grades, Previous Tests, etc.**
   provides historical perspective to learning patterns
   helpful in establishing learning rate

How Can Assessment Needs and Potential Instrumentation Be Combined to Provide Adequate Documentation?

The purpose of academic assessment is to collect and carefully interpret sufficient information to accurately determine specific educational needs. The degree to which assessment is systematic and thorough will determine the degree to which the educational program decisions are relevant and effective.

Assessment needs have been outlined, and potential instrumentation has been explored. The diagnosticians now need to ask the question, "Which type of instrumentation will supply us with appropriate and sufficient documentation information to adequately address the established assessment needs?"

A combination of the potential instruments previously discussed is generally the best way of obtaining the information that is needed in the identification process. The most important guides to the proper selection of these tools are the individual pupil and the diagnostician's judgment. A guide to determining what instruments will most accurately and efficiently provide the essential data is provided in Figure 5. Preferences concerning which device to use for the purpose stated is marked with an asterisk (*).

How Diagnostic Information Is Synthesized

Interpretation of the information obtained during the collection phase is the last step in the assessment process. Interpretation is the process of reviewing, analyzing and synthesizing all of the academic information on the child which has been collected. While a review and analysis of the data may be prepared by the individual clinician, generally the entire diagnostic team is involved in the synthesis process. Results can thereby be evaluated carefully in light of all other data collected by people with expertise in the various areas of documentation, and the results can be interpreted in terms of the total child.

Academic assessment data can best be synthesized in respect to the previously determined assessment needs as follows:

1. **Present Level of Knowledge or Skill** - What has the pupil actually learned and what is his/her present achievement level?

A norm-referenced achievement test is generally administered to obtain present level of functioning data. The test results compare the pupil's performance with national or local norms and are typically stated as a grade equivalency. Survey instruments provide a grade level score for each of the basic academic areas. The profile of abilities from these general scores may lead to the administration of more specific standardized diagnostic measures.

Criterion-referenced tests also provide present level of functioning data, describing explicitly what skills have been mastered and what skills are ready to be obtained. Work samples and observation may lend support to the statistical data supplied by the standardized instruments.

It should be remembered that due to the problem of error of measurement, it is never certain that a test score actually represents the pupil's present ability. Commonly used norm-referenced and criterion-referenced instruments useful in determining present level of functioning are in Appendix A.

Figure 5

Information Needs

Instrumentation	Present Level of Knowledge or Skill	Expectancy Level of Knowledge or Skill	Rate of Learning	Learning Difficulties and/or Style	Level of Motivation	Prior Interventions
Norm-referenced Intellectual Ability Tests	No	*Yes	Possibly	No	No	No
Norm-referenced Educational Achievement/diagnostic Tests	*Yes	Yes	*Yes	No	No	No
Criterion-referenced Tests	*Yes	No	Possibly	No	No	No
Work Samples	Possibly	No	No	Possibly	Possibly	Possibly
Observation	Possibly	No	No	*Yes	Yes	Possibly
Questionnaire or Interview	No	No	No	Possibly	*Yes	No
Prior Teachers' Estimates	No	Possibly	No	Possibly	No	No
Record Review (Grades,etc.)	No	No	Possibly	No	No	*Yes

2. **Expectancy Level of Knowledge or Skill** - What is a reasonable expectation for the pupil, and how can that expectation best be measured?

Determining expectancy level is somewhat tenuous as it uses intelligence and achievement test results and thus requires the problems inherent in those measurements. However, it is necessary to aid the decision making process by using the quantitative data available.

Several methods for deriving expectancy level are used as follows: 1) standard scores, 2) mental grade formula (Harris, 1961), 3) years-in-school formula (Bond & Tinker, 1967) and 4) age expectancy formula (Harris, 1970).

Standard scores are comparable to the IQ deviation scores of standardized tests and can be used to roughly determine if a pupil is functioning up to his/her general expectancy level. By taking age into consideration, standard scores interpret grade equivalency scores in a meaningful way. These scores or quotients are generally reported for each subtest of norm-referenced tests and may be compared with the results of formal intellectual measures to determine if the pupil is working up to his/her overall expectancy (IQ) in that specific area. An example follows:

WRAT Subtest	SS	WISC-R
Reading	98	Full Scale IQ 121
Spelling	93	
Arithmetic	117	

The reading Q of this student is 23 points below the IQ, the spelling Q is 28 points below the IQ, and the arithmetic Q is only 4 points below the IQ. This information, when supported by other data, indicates that reading and spelling are deficit areas in which he/she is not working up to his/her general expectancy level.

The mental grade method (Harris, 1961) provides a simple formula for deriving the pupil's reading expectancy based largely upon mental age:

$$RE \text{ (reading expectancy grade)} = MA - 5$$

$$7.0\ (RE) = 12\ (MA) - 5$$

Tony is a ten year old fifth grader with an IQ of 120. His current reading achievement score is 4.7. Using this formula, Tony is 2.3 years below his expectancy even though he is currently only three months below grade placement. Determining when a discrepancy becomes significant is an obvious problem.

The years-in-school method (Bond & Tinker, 1967) takes into account the number of years of teaching exposure when determining a reading expectancy grade:

$$\text{(reading expectancy grade)} = \frac{\text{years in school} \times IQ}{100} + 1.0$$

$$RE \quad \frac{4.5 \times 120}{100} + 1.0 = 6.4$$

Tony is in the middle of the fifth grade and therefore has been in school for 4.5 years. Applying this formula, Tony's reading expectancy is 6.4.

The age expectancy method devised by Harris (1970) gives priority to intelligence:

$$EA \text{ (expectancy age)} \quad \frac{2\ MA + CA}{3}$$

$$\text{(11 yrs.) } EA \quad \frac{2\ (12)\ MA + (10.0)\ CA}{3}$$

Using this formula, Tony's expectancy age is 11 years, which corresponds to approximately sixth grade functioning.

Once the expectancy level is derived using any of the above three methods, a comparison to the present achievement scores can then be made to determine if, and to what extent, a discrepancy exists.

3. **Rate of Learning** - How has the student's learning progressed historically?

Rate of learning can be determined by analyzing the results from comparable academic achievement and/or intelligence tests administered periodically over time. An example follows:

Grade	WRAT Reading Grade Score
2nd	2.5
3rd	3.7
4th	4.8
5th	5.1
6th	5.4

Viewing the above test results, one can tell that scores were at or above grade level until sixth grade at which time linear improvement slowed. In addition, the rate of growth dropped from more than a year's annual growth (+1.2, + 1.1) to only a few months growth from fifth grade to the sixth. This data of rate and fluctuations in learning can then be synthesized with respect to expectancy level information and sociological and behavioral findings. It should be remembered that there could be many reasons for such a pattern of performance change, only one of which may be emotional disabilities. All possibilities should be considered.

Although teacher grades (report cards) may be analyzed in much the same way as test scores, it should be remembered that grading systems, even at best, are not standardized, allowing for a great deal of subjectivity.

4. **Specific Learning Difficulties and/or Learning Style** - What special learning problems exist? If so, what is the primary disability?

Information regarding specific learning difficulties begins to form with the more general profile of results on survey instruments. For those subject areas found to be in deficit, norm-referenced diagnostic tests, criterion-referenced instruments and informal assessments provide more in-depth information about specific skill attainment. If still further investigation is indicated, an evaluation of correlate

areas or so called "splinter skills" and the various processes they represent should be included. Prior teachers may be able to provide invaluable information regarding learning difficulties and style. In addition, a trained, observant diagnostician can pick up on more subtle behavioral indicators of special problems and/or style both during the testing sessions and in the regular classroom setting.

Tests useful in determining special learning problems are included in Appendix A. An outline of observable indicators of learning disabilities is included in Appendix B.

5. **Level of Motivation** - What is the student's present level of motivation and how is it affecting his/her academic performance?

Observation of the student for behavioral indicators of motivational problems should be conducted throughout the entire academic assessment process.

Questionnaires and interviews, both structured and informal, can provide insight into the role motivation might be playing in behavioral and academic concerns. Some commonly used informal techniques include: (1) sentence completion, (2) ranking of subjects, (3) checklist of study habits and (4) three wishes. Commercially prepared questionnaires are included in the test section of Appendix A. A sample of such a questionnaire is included in Appendix B.

Academic assessment data is central to the process of identifying emotionally disabled pupils and assessment should be conducted in a manner reflecting that importance. Assessment methodology should be selected for specific predetermined needs, covering the full range of potential instrumentation. The process should not be terminated until documentation clearly satisfying the determined assessment needs has been gathered and analyzed. Academic assessment draws its strength from supportive data. Therefore, final synthesis of assessment information should be conducted in light of all data collected by the various disciplines. This systematic but cautious approach will greatly assist the often times difficult task of identifying emotionally disabled pupils.

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Appendix A

	Test Author	Grade Level	Skills Measured	Special Features
I.	**Norm Referenced Achievement Tests** **Survey**			
	Wide Range Achievement Test (Jastak & Jastak, 1965)	1-10	Reading Recognition Written Spelling Arithmetic	Individually administered Takes 10-15 minutes to administer
	Iowa Test of Basic Skills (Lindquist & Hieronymous, 1956)	1-9	Traditional	Group administered Much verbal content
	California Achievement Test (Tiegs & Clark, 1970)	1-9	Traditional	Group administered May be used diagnostically
	SRA Achievement Series (Thorpe, Lefever, Naslund, 1969)	1-9	Traditional	Group administered Handbook for Diagnostic Analysis
	Peabody Individual Achievement Test (Dunn & Markwardt, 1970)	K-adult	Math, Spelling, Reading Recognition, Reading Comprehension, General Information	Individually administered
II.	**Norm-Referenced Diagnostic Tests**			
	Test of Written Spelling (Larsen & Hammill, 1976)	1-9	Predictable words Unpredictable words	Content chosen from often used spelling series
	Key Math Diagnostic Arithmetic Test (Connely, Nachtman, Pritchett, 1976)	K-9	Content, Operations, Applications	Individually administered Little reading required Not really diagnostic, but useful in determining probiem areas
	Standard Reading Inventory (McCracken, 1966)	1-7	Word recognition Oral reading comprehension Speed, Word meaning	Individually administered
	Diagnostic Reading Scales (Spache, 1963)	1-8	Instructional, Independent, potential reading levels	Individually administered Sophisticated interpretation required
	Boehm Test of Basic Concepts (Boehm, 1971)	K-2	Frequently used school concepts	Group administered Use results to plan remediation

Test Author	Grade Level	Skills Measured	Special Feature
Durrell Analysis of Reading Difficulty (Durrell, 1955)	1-6	Silent & Oral reading Listening comprehension Word Analysis, Phonics Writing, Spelling	Individually Administered Observe faulty habits in reading
Woodcock Reading Mastery Tests (Woodcock, 1973)	1-9	Letter recognition Word recognition Word attack Word Comprehension Passage Comprehension	Individually administered Interpretation is on predicted individual performance
Gray Oral Reading Test (Gray & Robinson, 1967)	1-adult	Oral reading	Individually administered Use in addition to silent measure
Silent Reading Diagnostic test (Bond, Balow, Hoyt)	2-6	Words in isolation Words in context Visual-structural analysis Syllabication, Sounds	Group administered Supplement with individual test
Gilmore Oral Reading Test (Gilmore & Gilmore, 1968)	1-8	Reading accuracy Comprehension Reading rate	Individually administered Takes 15 minutes to administer
III. Criterion-Referenced Assessment Instruments			
Diagnostic Tests & Self Helps in Arithmetic (Brueckner, 1955)	3-8	Computations Operations Measurement	Correlated with corrective self-help exercises
Diagnostic Spelling Test (Kottmeyer, 1970)	1-6	Traditional spelling	Dictation format Norm-referenced data available
Woodcock Reading Mastery Tests (Woodcock, 1973)	1-9	Letter recognition Word recognition Word attack Word comprehension Passage comprehension	Individually administered Norm-referenced data also available
Basic Concept Inventory (Engleman, 1967)	P-K	Concepts of verbal directions	Checklist format Devised for ED children

Test Author	Grade Level	Skills Measured	Special Feature
Brigance Diagnostic Inventory of Basic Skills (Brigance, 1977)	K-6	Readiness Reading Language Arts Math	Developmentally arranged Grade level scores available Extensive in coverage
Fundamental Processes in Arithmetic (Buswell & John)	1-9	Math computation	Excellent error analysis

IV. Questionnaires and Interviews

What I Like to Do (Bonsall, Meyers, Thorpe)	1-6	Interests	
Evaluation of Attitudes Toward Arithmetic (Dutton & Adams, 1961)		Math attitudes	
Fundamental Processes in Arithmetic (Buswell & John)	1-9	Math computation	Error analysis through interview

Appendix B

Observable Characteristics Indicative of Possible Learning Disability

I. Behavior
Short attention span
Easily distracted
Hyperactive (constantly moving)
Abilities inconsistent - what he/she can do one day, he/she may not be able to do the following day

II. Motor
Poor coordination - gross, fine and visual motor
Problems of balance
Lack of rhythm in movements
Inability to sustain a given movement - pattern loses sequence
confusion as to which is the right side and which is the left side of his/her body

III. Ocular
Eyes cannot follow target
Eye movements jerky
Eyes do not work together
Unable to do concentrated visual activities for average lengths of time

IV. Visual
Inability to distinguish shapes
Inability to see relationship of parts to the whole
Confuses directions
Cannot separate figure from background
Difficulty retaining visual image
Poor spatial orientation

V. Auditory
Inability to differentiate similar sounds
Doesn't always interpret correctly what is heard
Inability to follow verbal directions
Can't remember specific sounds
Can't hear or remember sequences
Unable to identify sounds

VI. Academic
Reading
Small sight-word vocabulary
Poor word attack skills
Loses place in reading
Confuses similar words and letters
Difficulty hearing and learning phonetic sounds
Skips phrases or sentences when reading
Reverses certain letters (example: b and d) or words (example: saw and was) when reading
Looks only at beginning letters when identifying word
Uses fingers to follow along

Spelling
Inability to associate correct sound with letter
Incorrect order of letters in words

Writing
Letter and word reversals
Inability to stay on the line
Can't change direction of movement
Difficulty crossing lines
Uneven size
Improper spacing
Poor formation of letters

Arithmetic
Difficulty associating correct symbol with number
Problems of sequence
No immediate visual recognition of groupings

Evaluation of Attitudes toward Arithmetic

Directions: Check (X) only the statements that express your feeling toward arithmetic.

1. I feel arithmetic is an important part of the school curriculum
2. Arithmetic is something you have to do even though it is not enjoyable
3. Working with numbers is fun
4. I have never liked arithmetic
5. Arithmetic thrills me and I like it better than any other subject
6. I get no satisfaction from studying arithmetic
7. I like arithmetic because the procedures are logical
8. I am afraid of doing word problems
9. I like working all types of arithmetic problems
10. I detest arithmetic and avoid using it at all times
11. I have a growing appreciation of arithmetic through understanding its values, applications and processes
12. I am completely indifferent to arithmetic
13. I have always liked arithmetic because it has presented me with a challenge
14. I like arithmetic but I like other subjects just as well

Bibliography

Banatyne, A. *Reading, Language and Learning: A Psycholinguistic Approach.* Charles C. Thomas, 1974.

Block, J. H. Criterion-referenced measurements: Potential. *School Review*, 1971, *79*, 289-298.

Bond, G. and Tinker, M. *Reading Difficulties: Their Diagnosis and Correction*, 2nd ed. New York: Appleton-Century-Crofts, 1967.

Bower, E. M. *Early Identification of Emotionally Handicapped Children In School.* Springfield, Illinois: Charles C. Thomas, 1960, (2nd ed.) 1969.

Cattel, R. B. and Cattel, M. D. *Handbook For the Jr.-Sr. High School Personality Questionnaire.* Champaign, Illinois: Institute for Personality and Ability Testing, 1969.

Cross, L. and Goin, K. *Identifying Handicapped Children.* Walker and Company, 1977.

Ebel, R. L. Criterion-referenced measurements: Limitations. *School Review*, 1971, *79*, 282-288.

Finch, A. J. Jr., Pezzuti, K. A. and Nelson, W. M. III. Locus of control and academic achievement in emotionally disturbed children. *Journal of Consulting and Clinical Psychology*, 1975. *43*, 103.

Freeman, F. S. *Theory and Practice of Psychological Testing.* (3rd ed.) New York: Holt, Rinehart and Winston, 1962.

Granick, S. Intellectual performance as related to emotional instability in children. *Journal of Abnormal and Social Psychology*, 1955, *51*, 653-656.

Graubard, P. The extent of academic retardation in a residential treatment center. *Journal of Educational Research*, 1964, *58*, 78-80.

Hammil, D. and Bartel, N. *Teaching Children with Learning and Behavior Problems.* Allyn and Bacon, Inc., 1975.

Harris, A. *How to Increase Reading Ability*, 4th ed. New York: David McKay, 1961; 5th ed. 1970.

Jastak, J. F. *Wide Range Achievement Test, Manual.* Wilmington, Delaware: Charles L. Story, 1946.

Jastak, J. F. Ranking bellevue subtests for diagnostic purposes. *Journal of Consulting Psychologists*, 1953, *6*, 403-410.

Klausmeier, H. J. *Learning and Human Abilities.* Harper and Row, 1966.

Lambert, N. M. and Bower, E. M. *A Process for In-school Screening of Children with Emotional Handicaps.* Technical Report, California State Department of Education, Sacramento, California. Princeton, N. J.: Educational Testing Service, 1961.

McHugh, A. F. WISC performance in neurotic and conduct disturbances. *Journal of Clinical Psychology*, 1963, 19, 423-424.

Palmer, J. *The Psychological Assessment of Children.* New York: John Wiley and Sons, Inc., 1970.

Petrie, I. R. J. Residential treatment of maladjusted children: A study of some factors related to progress in adjustment. *British Journal of Educational Psychology*, 1962, *32*, 29-37.

Popham, W. J. An approaching peril: Cloud-referenced tests. *Phi Delta Kappan*, 1974, 55, 614-615.

Rules of Special Education. Iowa Department of Public Instruction, Des Moines, Iowa, 1977.

Sanford, A. R. *Learning Accomplishment Profile.* Winston-Salem, N.C.: Kaplan School Supply Co., 1975.

Sattler, J. M. *Assessment of Children's Intelligence.* Philadelphia, Pa.: W. B. Saunders, 1974.

Schoonover, S. M. and Hertel, R. K. Diagnostic implications of WISC scores. *Psychological Reports*, 1970, 26, 967-973.

Stewert, D. W. and Louisa, V. Intelligence, academic achievement, and personality: A canonical variate analysis. *Psychology in the Schools*, Oct. 1976, 468-470.

Stone, F. B. and Rowley, V. N. Educational disability in emotionally disturbed children. *Exceptional Children*, 1964, *30*, 423-426.

Swift, M. S. and Spivak, G. Clarifying the relationship between academic success and overt classroom behavior. *Exceptional Children*, 1969, *36*, 99-104.

Tamkin, A. S. A survey of educational disability in emotionally disturbed children. *Journal of Educational Research*, 1960, *53*, 313-315.

Weisskopf, E. A. Intellectual malfunctioning and personality. *Journal of Abnormal and Social Psychology*, 1951, *46*, 410-423.

Werry, J. S. The diagnosis, etiology, and treatment of hyperactivity in children. *Learning Disorders*, Vol. 3. Seattle: Special Child Publications, 1968.

Woody, R. N. Diagnosis of behavioral problem children. *Journal of School Psychology*, 1967, 5, 116-121.